Listing of Claims

1. (previously presented): A curable resin composition which comprises (i-1) an epoxy compound having an ionic polymerizability and viscosity of not more than 1,000 cP at 25°C, (i-2) an acrylic resin having an ionic polymerizable functional group, and (3) a thermally-activating ionic polymerization catalyst which can be dissolved by heating and crystallized by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

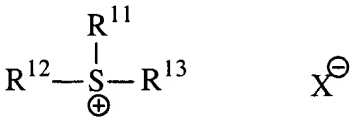
2. (previously presented): A curable resin composition as claimed in claim 1, wherein said epoxy compound (i-1) has 1-2 epoxy groups per molecule, and at least one of said epoxy groups is a cycloaliphatic epoxy group.

3. (previously presented): A curable resin composition as claimed in claim 1 or 2, wherein said acrylic resin (i-2) has a hydroxyl group, and a glycidyl group and/or a cycloaliphatic epoxy group.

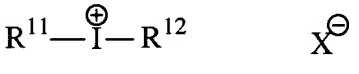
4. (previously presented): A curable resin composition according to claim 1, wherein said thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

5. (previously presented): A curable resin composition as claimed in claim 4, wherein said cationic polymerization catalyst (3') is a compound having a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 or at least one cyclic organic structure containing a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 in the molecule.

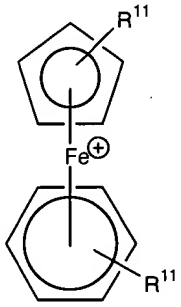
6. (currently amended): A curable resin composition according to claim 4, wherein said cationic polymerization catalyst (3') is at least one selected from the group consisting of sulphonium salt represented by general formula (I-1), an iodonium salt represented by general formula (I-2), an aromatic iron compound represented by general formula (I-3), an ~~organic silicone~~ organosilicon compound represented by general formula (I-4), and a compound represented by general formula (I-5):



(I-1)



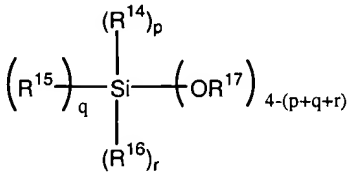
(I-2)



(I-3)

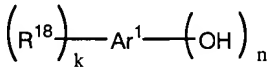
(in the general formulae, R^{11}, R^{12}, and R^{13} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, and a substituted or nonsubstituted aromatic group or heteroaromatic group, respectively, provided that there is contained at least one substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 or at least one cyclic organic structure containing a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 in the molecule; X is SbF_6, AsF_6, PF_6, or BF_4, and an anionic derivative therefrom in which at least one fluorine atom is substituted with a hydroxyl group, an anion selected from the group consisting of CF_3SO_3, ClO_4, a halogen atom, R^1-COO, and R^2-SO_3; herein, R^1 and R^2 are an

alkyl group or phenyl group which may be substituted with an alkyl group, or a halogen atom, or nitro group, or cyano group, or alkoxy group)



(I-4)

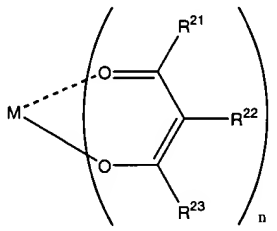
(in the general formula, R^{14}, R^{15}, R^{16} and R^{17} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, and a substituted or nonsubstituted aromatic group or heteroaromatic group, respectively, provided that there is contained at least one substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 or at least one cyclic organic structure containing a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 in the molecule; "p", "q", and "r" are an integer of 0-3, and "p+q+r" is not more than 3)



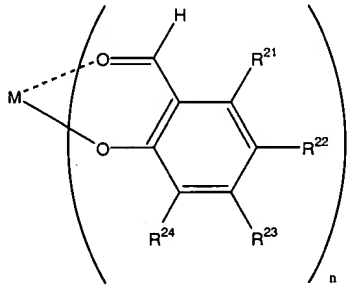
(I-5)

(in the general formula, Ar^1 is a substituted or nonsubstituted aromatic group or heteroaromatic group, R^{18} may be identical or different, and which is a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, and a substituted or nonsubstituted aromatic group or heteroaromatic group, respectively, provided that there is contained at least one substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 or at least one cyclic organic structure containing a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 in the molecule-; "k" and "n" are an integer of 1-7, respectively).

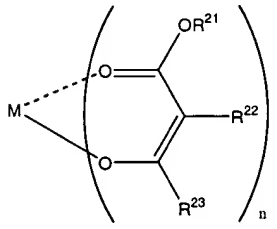
7. (currently amended): A curable resin composition according to claim 4, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)



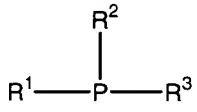
(II-3)

(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is ~~selected from the group consistent of~~ Al~~, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zr, Zn, Ba, Ca, Ce, Pb, Mg, Sn, and V~~; "n" is 3 ~~a integer of 2-4~~), and

at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom, and a silicon compound capable of generating silanol upon irradiation of light.

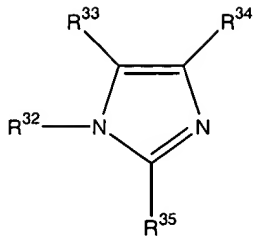
8. (Canceled)

9. (previously presented): A curable resin composition according to claim 1, wherein said thermally-activating ionic polymerization catalyst (3) contains at least one kind selected from the group consisting of a compound represented by general formulae (III-1') and (III-2),



(III-1')

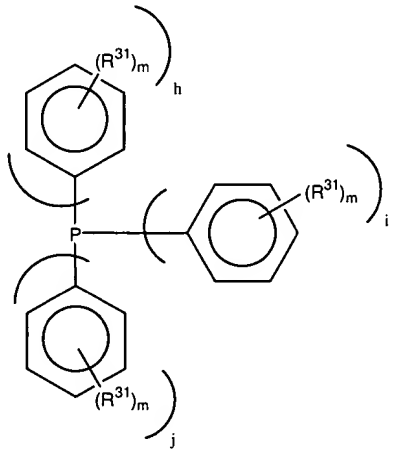
(in the general formula (III-1'), R^1, R^2, and R^3 may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, and an aromatic group or heteroaromatic group having a substituted or nonsubstituted hydrocarbon group, respectively, provided that there is contained at least one substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10 or at least one of an aromatic group or heteroaromatic group having a substituted or nonsubstituted hydrocarbon group of a carbon number of not less than 10)



(III-2)

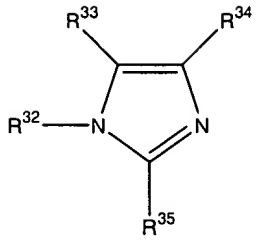
(in the general formula (III-2), R^{32}, R^{33}, R^{34}, and R^{35} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that at least two of R^{32}, R^{33}, R^{34}, and R^{35} are a hydrocarbon group having a carbon number of not less than 10).

10. (previously presented): A curable resin composition according to claim 1, wherein said thermally-activating ionic polymerization catalyst (3) contains at least one kind selected from the group consisting of a compound represented by general formulae (III-1) and (III-2),



(III-1)

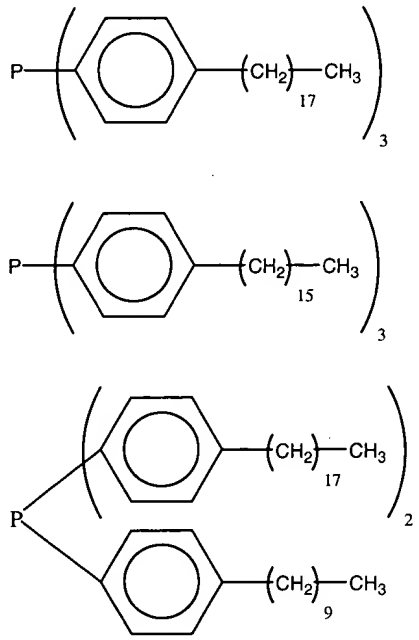
(in the general formula (III-1), R^{31} may be identical to or different, and which are a hydrogen atom, or a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, provided that at least one R^{31} in one molecule has a carbon number of not less than 10-; "h", "i", and "j" are an integer of satisfying "h+i+j=3", and "m" is an integer of 1-5)

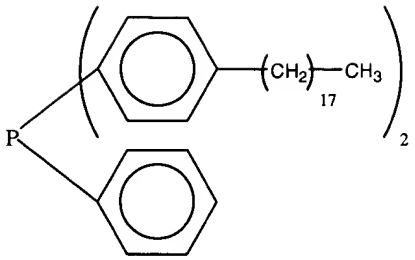


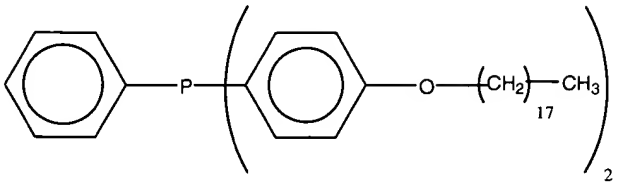
(III-2)

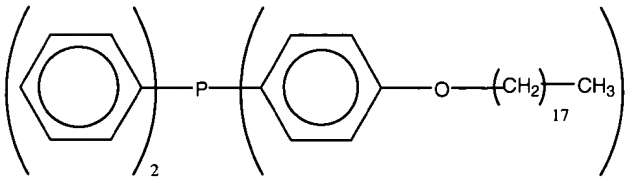
(in the general formula (III-2), R^{32}, R^{33}, R^{34}, and R^{35} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that at least two of R^{32}, R^{33}, R^{34}, and R^{35} are a hydrocarbon group having a carbon number of not less than 10).

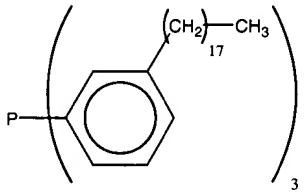
11. (previously presented): A curable resin composition as claimed in claim 10, wherein said compound represented by general formula (III-1) is at least one kind selected from groups shown below:

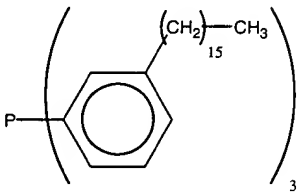


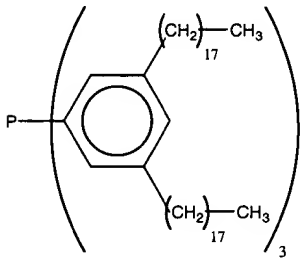


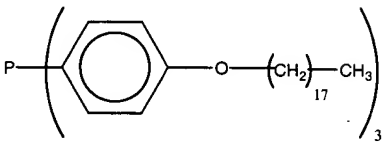


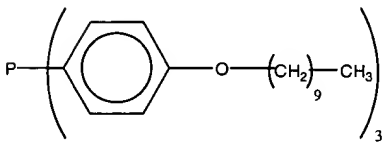


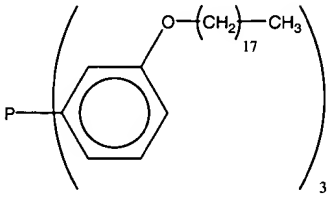


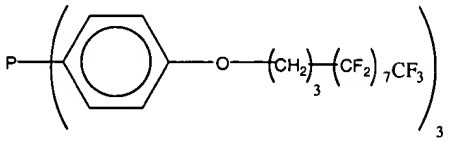


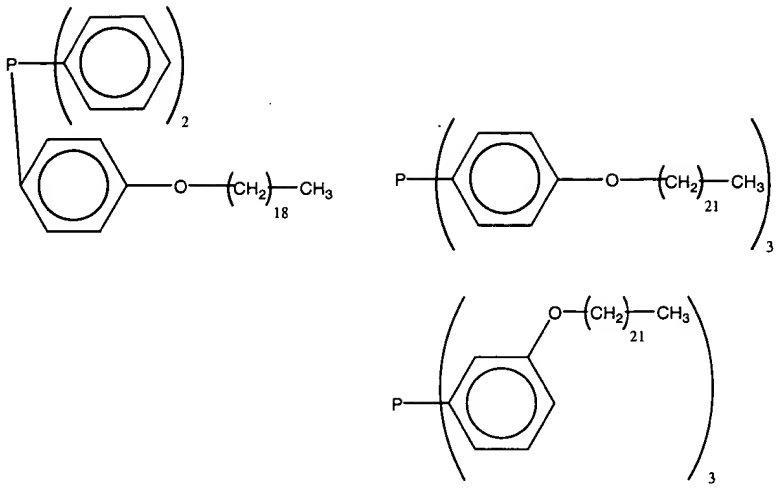




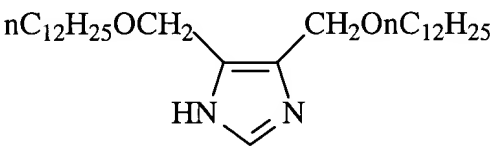


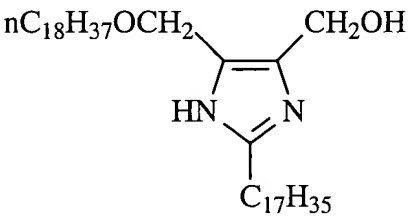


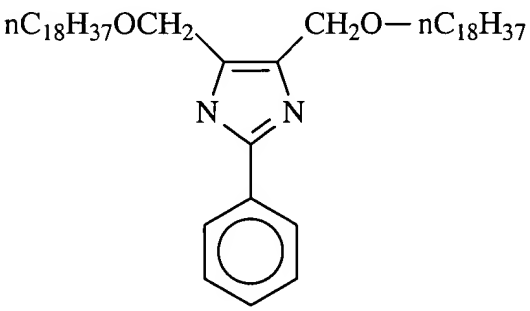




12. (previously presented): A curable resin composition as claimed in claim 9 or 10, wherein said compound represented by the formula (III-2) is at least one kind selected from the group shown below:







13. (currently amended): A coating for cans, comprising: ~~A~~ a curable resin composition according to claim 1~~, which is employed for coating cans~~.

14. (currently amended): A method for the preparation of a curable resin composition characterized in that there is prepared an acrylic resin (i-2) having functional groups which are capable of reacting with ionic species in a curable resin composition according to claim 1 under a condition of the absence of a volatile solvent by polymerizing monomers constructing an acrylic resin (i-2) ~~in~~ with an epoxy compound (i-1).

15. (currently amended): A coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in ~~any of claims~~ claim 1~~-12~~.

16. (previously presented): A solvent-based coating composition which comprises (ii-1) an epoxy compound having at least two cycloaliphatic epoxy groups in the molecule and a number average molecular weight of not more than 2,000, (ii-2) an acrylic resin containing an epoxy group and having a number average molecular weight of 2,000-50,000, a hydroxyl group value of 10-250 mgKOH/g, and an epoxy equivalent of not more than 300, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

17. (previously presented): A solvent-based coating composition as claimed in claim 16, wherein said epoxy group in said acrylic resin (ii-2) containing an epoxy group is a cycloaliphatic epoxy group or an epoxy group derived from glycidylmethacrylate.

18. (previously presented): A solvent-based coating composition which comprises (ii-1) an epoxy compound having at least two cycloaliphatic epoxy groups in the molecule and a number average molecular weight of not more than 2,000, (ii-2) an acrylic resin containing an epoxy group and having a number average molecular weight of 2,000-50,000, a hydroxyl group value of 10-250 mgKOH/g, and an epoxy equivalent of not more than 300, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; wherein said epoxy compound (ii-1) is mixed with an additional epoxy selected from the group consisting of bisphenol-type epoxy compound, a novolak-type epoxy compound, and a brominated-type epoxy compound thereof.

19. (currently amended): A solvent-based coating composition according to ~~as claimed in either claim 16, or~~ claim 18, wherein oxirane oxygen concentration is 5-11% by weight in a resin composition composed of said epoxy compound (ii-1) and said acrylic resin (ii-2) containing an epoxy group.

20. (currently amended): A solvent-based coating composition according to claim 19, wherein said thermally-activating ionic polymerization catalyst (3) ~~is a catalyst as described in claim 4~~ can be dissolved by heating and crystallized by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group,

wherein said thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

21. (currently amended): A coating for cars, comprising: ~~A~~ a solvent-based coating composition ~~according to claim 18 which is employed for coating cars~~ comprising (ii-1) an epoxy compound having at least two cycloaliphatic epoxy groups in the molecule and a number average molecular weight of not more than 2,000, (ii-2) an acrylic resin containing an epoxy group and having a number average molecular weight of 2,000-50,000, a hydroxyl group value of 10-250 mgKOH/g, and an epoxy equivalent of not more than 300, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; wherein said epoxy compound (ii-1) is mixed with an additional epoxy selected from the group consisting of bisphenol-type epoxy compound, a novolak-type epoxy compound, and a brominated-type epoxy compound thereof.

22. (currently amended): A coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in ~~any of claims~~ claim 18 ~~16-20~~.

23. (previously presented): A resin composition for insulating a laminated printed circuit board which comprises (iii-1) a monomer having at least one functional group having ionic polymerizability, (iii-2) a polymeric compound having at least one functional group having ionic polymerizability, a (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

24. (previously presented): A resin composition for insulating a laminated printed circuit board as claimed in claim 23, wherein said monomer (iii-1) has a viscosity of not more than 1,000 cP/25°C and 1-2 epoxy groups per molecule, and at least one of said epoxy groups is a cycloaliphatic epoxy group.

25. (previously presented): A resin composition for insulating a laminated printed circuit board as claimed in claim 23 or 24, wherein said polymeric compound (iii-2) has a cycloaliphatic epoxy group.

26. (currently amended): A resin composition for insulating a laminated printed circuit board according to claim 23, wherein said polymeric compound (iii-2) is an acrylic resin ~~polymerized in~~ comprising said monomer (iii-1) containing 3,4-epoxycyclohexylmethyl (meth) acrylate.

27. (currently amended): A resin composition for insulating a laminated printed circuit board according to claim 23, wherein said thermally-activating ionic polymerization catalyst (3) ~~is a catalyst according to claim 4~~ has at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

28. (currently amended): A laminated printed circuit board ~~which comprises~~ comprising:

a substrate, and

at least a first layer and a second layer supported by said substrate, and

~~coating~~ a curable resin ~~composition~~ located between said first layer and said second layer, said resin having a composition according to claim 23 ~~for insulating a laminated printed circuit board according to claim 23 onto a substrate and curing, which has resin layers for insulating between layers~~

29. (previously presented): A curable resin composition which comprises (iv-1) an epoxy resin having ionic polymerizability and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

30. (previously presented): A curable resin composition as claimed in claim 29, wherein said epoxy resin (iv-1) is a polyfunctional epoxy resin and at least one of epoxy groups is a cycloaliphatic epoxy group.

31. (currently amended): A curable resin composition as claimed in claim 29 or 30, wherein said thermally-activating ionic polymerization catalyst (3) ~~is a catalyst as described in claim 4~~ has at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

32. (currently amended): A protecting layer for a color filter - comprising a coating formed from curing the curable resin composition set forth in ~~any of claims~~ claim 29~~-31~~, wherein said protecting layer is deposited on a substrate.

33. (previously presented): A color filter using a protecting layer for a color filter as claimed in claim 32.

34. (previously presented): A liquid crystal display device using a protecting layer for a color filter as claimed in claim 32.

35. (previously presented): A curable resin composition which comprises (v-1) an epoxy compound having ionic polymerizability and a viscosity of not more than 1,000 cP at 25°C, (v-4) an oxetane compound having 1-6 oxetane rings per molecule, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

36. (previously presented): A curable resin composition which comprises (v-1) an epoxy compound having ionic polymerizability and a viscosity of not more than 1,000 cP at 25°C, (v-2) an acrylic resin having a functional group of ionic polymerizability, (v-4) an oxetane compound having 1-6 oxetane rings per molecule, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystalize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group.

37. (previously presented): A curable resin composition as claimed in claim 35 or 36, wherein said epoxy compound (v-1) has 1-4 epoxy groups per molecule and wherein at least one of said epoxy groups is a cycloaliphatic epoxy group.

38. (currently amended): A curable resin composition ~~according to claim 35~~ comprising: (v-1) an epoxy compound having ionic polymerizability and a viscosity of not more than 1,000 cP at 25°C, (v-4) an oxetane compound having 1-6 oxetane rings per molecule, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group, wherein said epoxy compound (v-1) is mixed with an additional epoxy selected from the group consisting of a bisphenol-type epoxy compound, a novolak-type epoxy compound, and a brominated-type epoxy compound thereof.

39. (previously presented): A curable resin composition according to claim 36, wherein said acrylic resin (v-2) has a hydroxyl group and- a glycidyl group and/or a cycloaliphatic epoxy group.

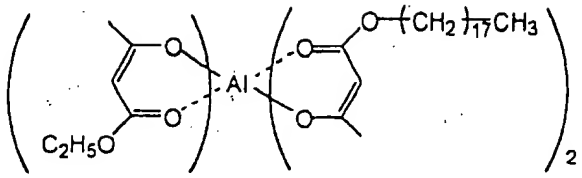
40. (currently amended): A curable resin composition according to claim 35, wherein said thermally-activating ionic polymerization catalyst (3) ~~is a catalyst as claimed in claim 4~~ has at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

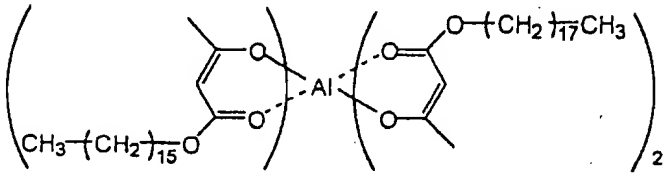
41. (currently amended): ~~A~~ A coating for cans, comprising: curable resin composition according to claim 35~~, which is employed for coating cans~~.

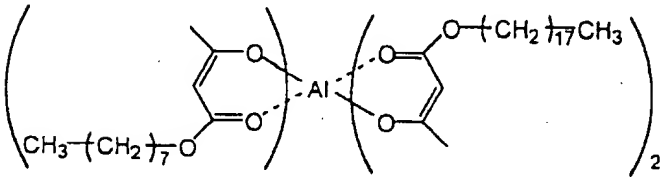
42. (currently amended): A coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in ~~any of claims~~ claim 35-~~40~~.

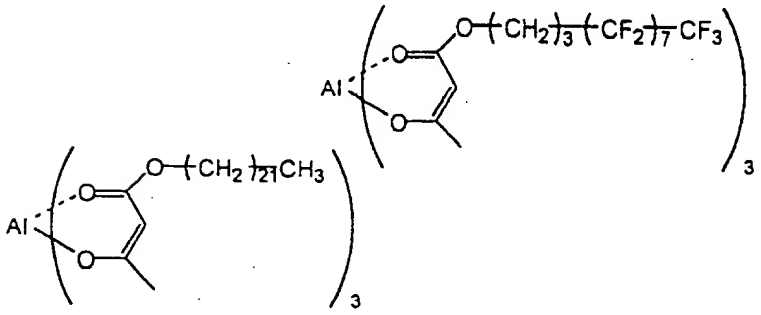
43. (previously presented): A solvent-based coating composition which comprises (ii-1) an epoxy compound having at least two cycloaliphatic epoxy groups in the molecule and a number average molecular weight of not more than 2,000, (ii-2) an acrylic resin containing an epoxy group and having a number average molecular weight of 2,000-50,000, a hydroxyl group value of 10-250 mgKOH/g, and an epoxy equivalent of not more than 300, and (3) a thermally-activating ionic polymerization catalyst which can dissolve by heating and crystallize by cooling; wherein said epoxy group in said acrylic resin (ii-2) containing an epoxy group is a cycloaliphatic epoxy group or an epoxy group derived from glycidylmethacrylate and wherein said epoxy compound (ii-1) is mixed with an additional epoxy selected from the group consisting of a bisphenol-type epoxy compound, a novolak-type epoxy compound, and a brominated-type epoxy compound thereof.

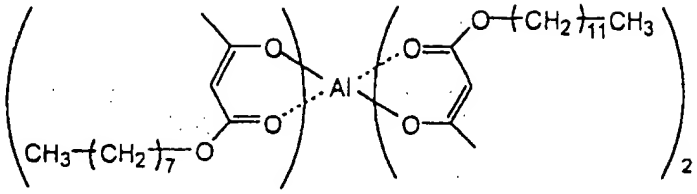
44. (new): A curable resin composition according to claim 7, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum, tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas:

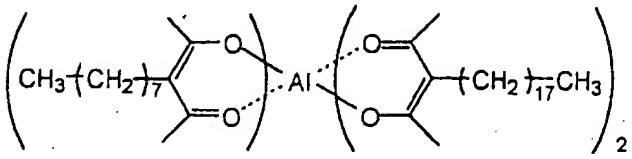


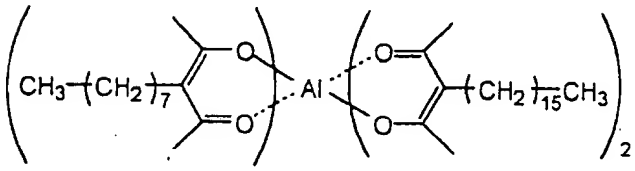


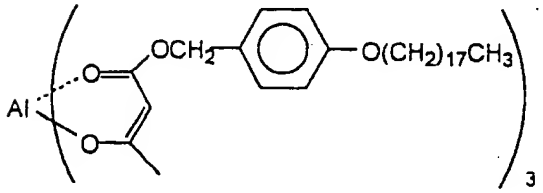


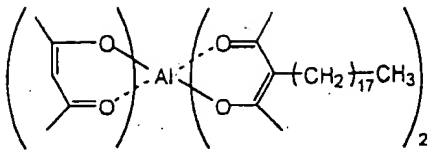


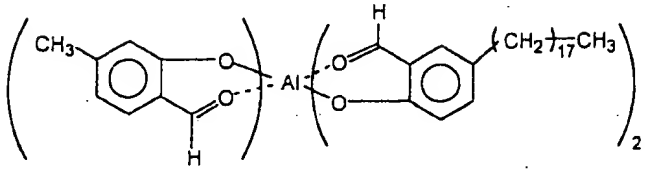


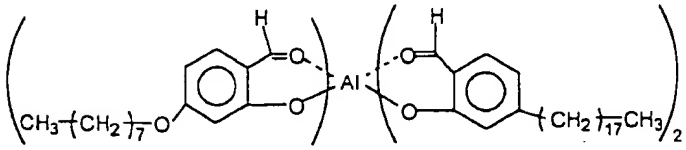


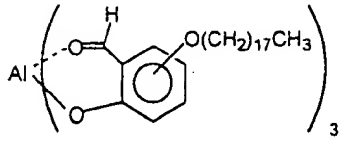












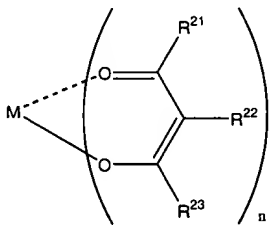
45. (new): A solvent-based coating composition according to claim 16 wherein oxirane oxygen concentration is 5-11% by weight in a resin composition composed of said epoxy compound (ii-1) and said acrylic resin (ii-2) containing an epoxy group.

46. (new): A solvent-based coating composition according to claim 45, wherein said thermally-activating ionic polymerization catalyst (3)-can be dissolved by heating and crystallized by cooling; said polymerization catalyst having a substituted hydrocarbon group having a carbon number of more than 10, or a nonsubstituted hydrocarbon group having a carbon number of more than 10, or a cyclic organic structure having a more than 10 carbon number hydrocarbon group,

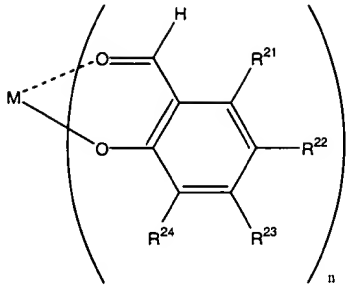
wherein said thermally-activating ionic polymerization catalyst (3) contains at least one selected from the group consisting of a cationic polymerization catalyst (3') and a metal compound (3").

47. (new): A coated article comprising a substrate and a coating on said substrate, wherein said coating is formed from curing the curable resin composition set forth in claim 16.

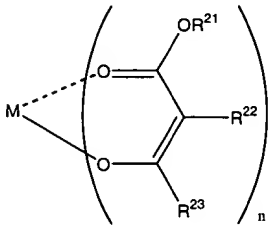
48. (new): A curable resin composition according to claim 27, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)



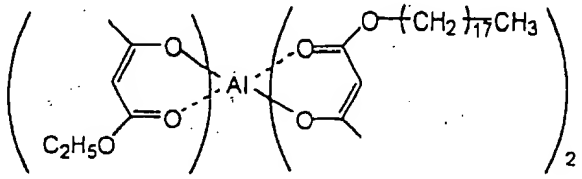
(II-3)

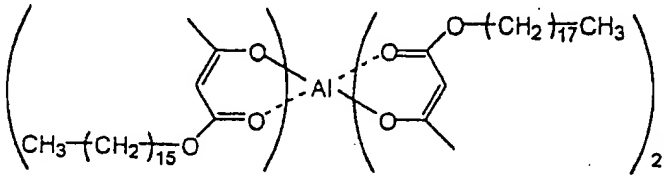
(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is Al; "n" is 3), and

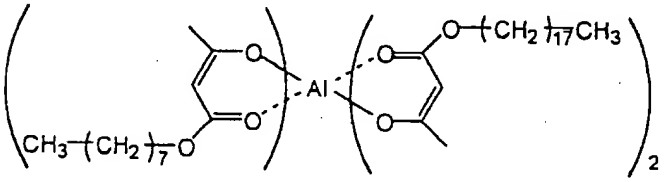
at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom,, and a silicon compound capable of generating silanol upon irradiation of light.

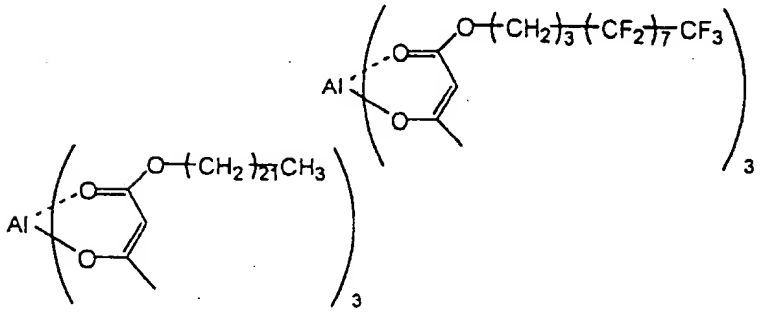
49. (new): A curable resin composition according to claim 48, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum,

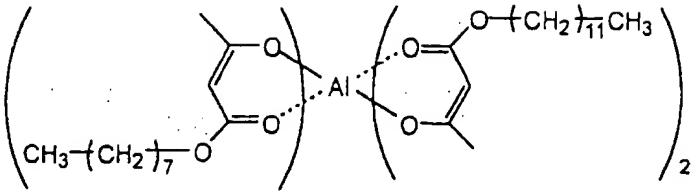
tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas:

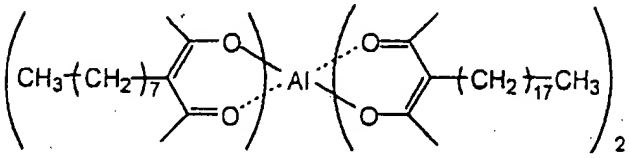


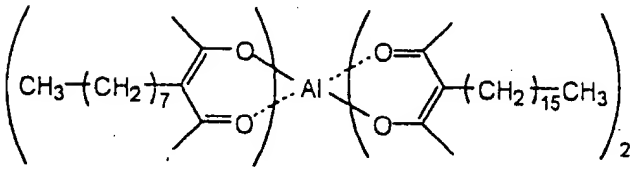


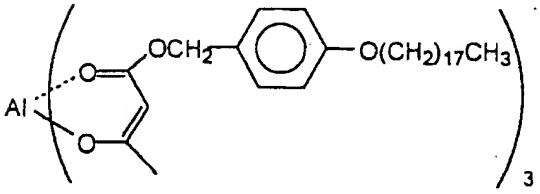


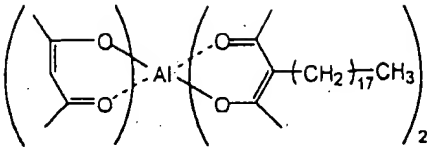


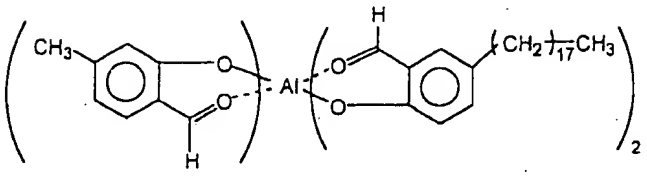


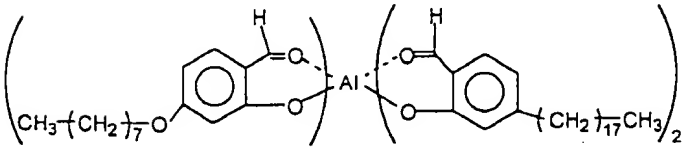


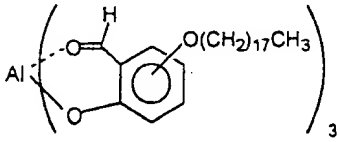




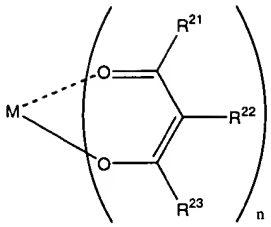




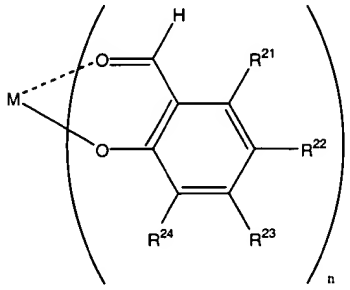




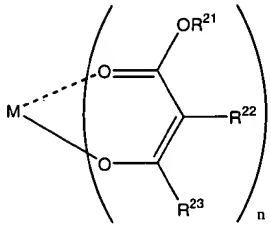
50. (new): A curable resin composition according to claim 31, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)

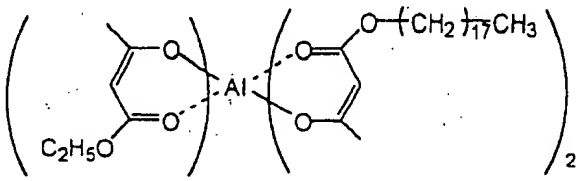


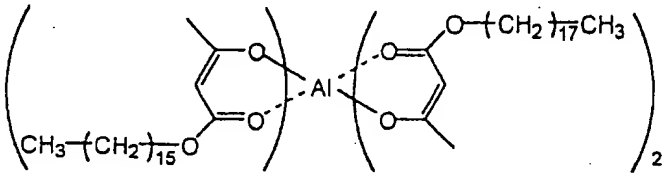
(II-3)

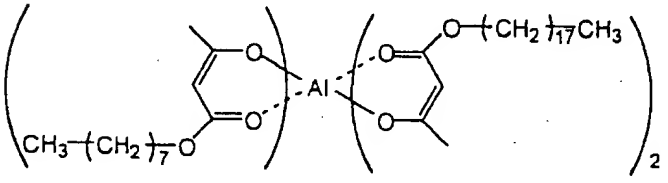
(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is Al; "n" is 3), and

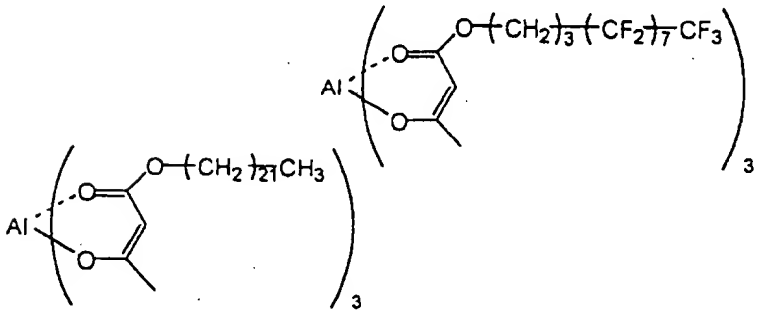
at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom,, and a silicon compound capable of generating silanol upon irradiation of light.

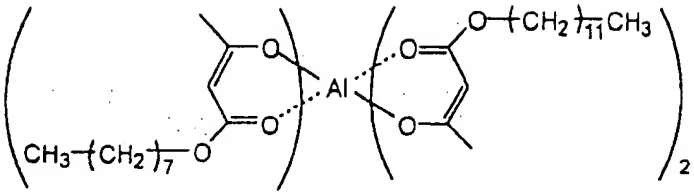
51. (new): A curable resin composition according to claim 50, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum, tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas:

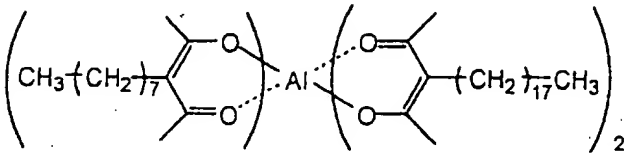


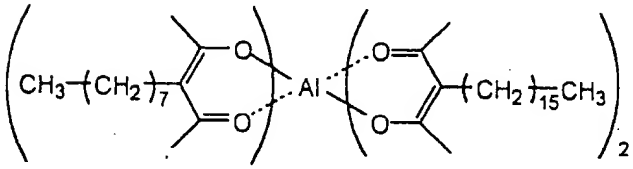


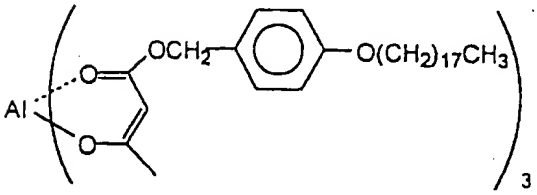


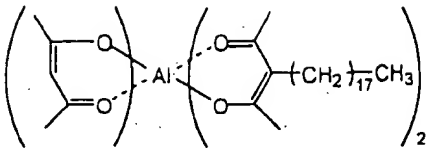


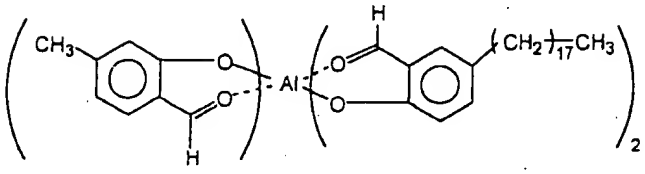


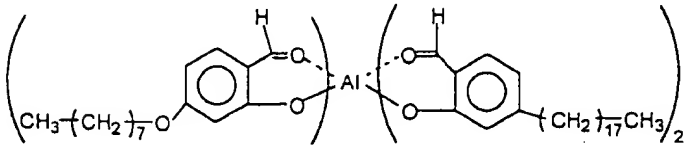


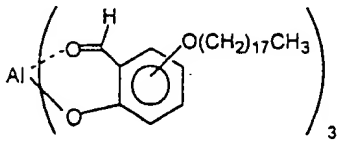




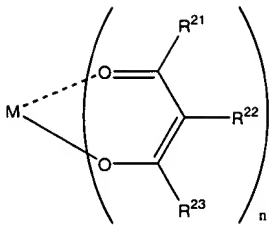




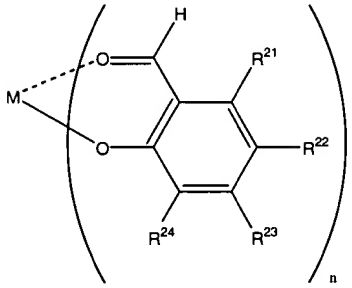




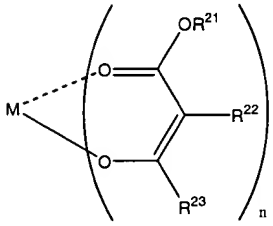
52. (new): A curable resin composition according to claim 40, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)

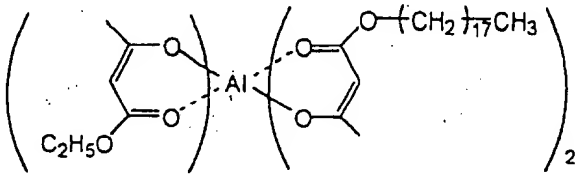


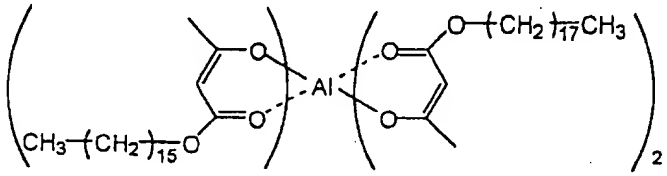
(II-3)

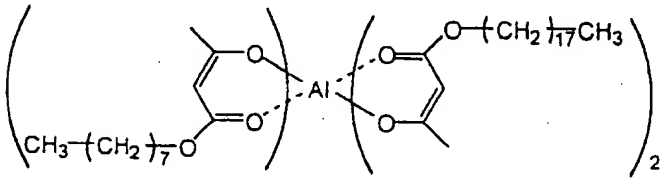
(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is Al; "n" is 3), and

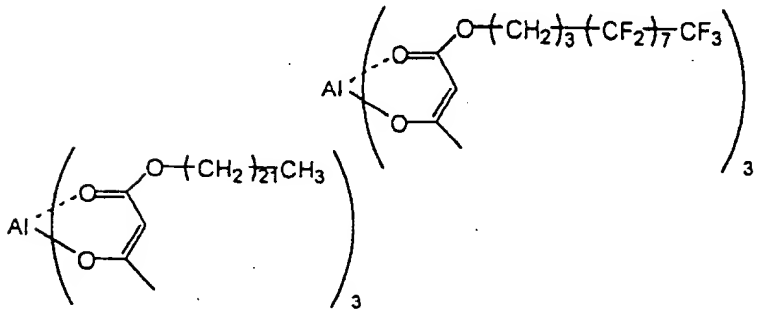
at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom,, and a silicon compound capable of generating silanol upon irradiation of light.

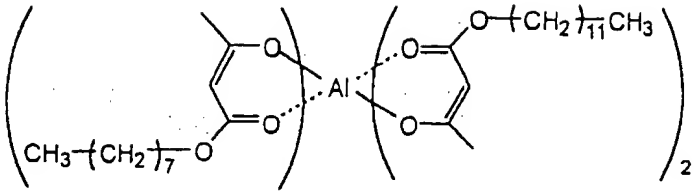
53. (new): A curable resin composition according to claim 52, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum, tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas:

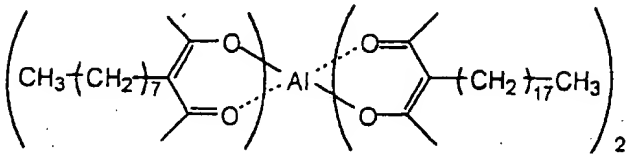


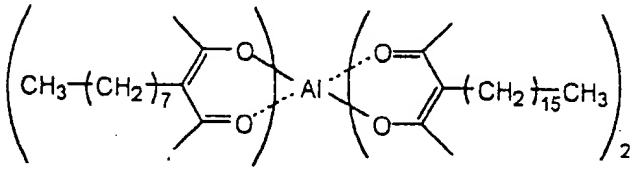


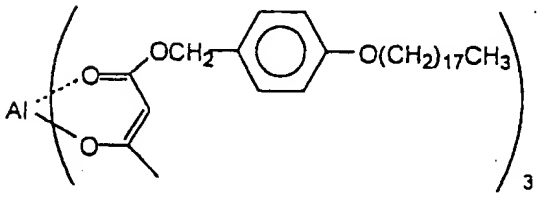


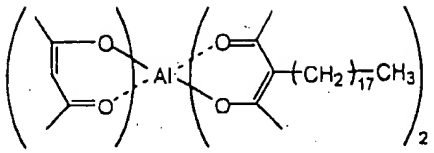


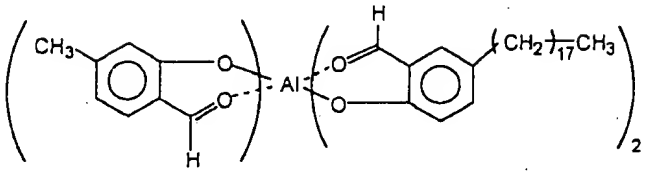


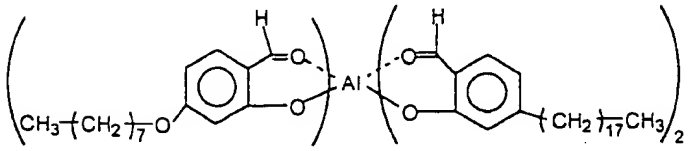


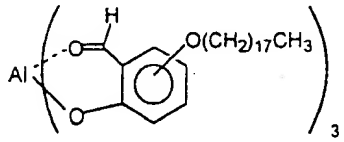




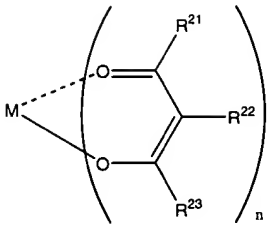




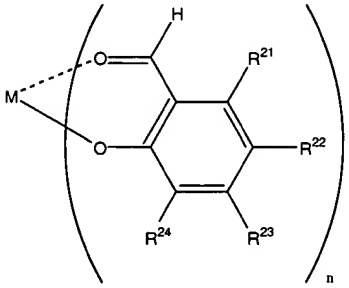




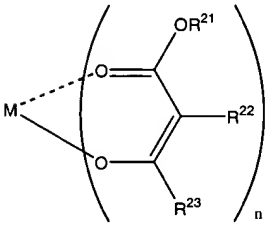
54. (new): A curable resin composition according to claim 20, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)

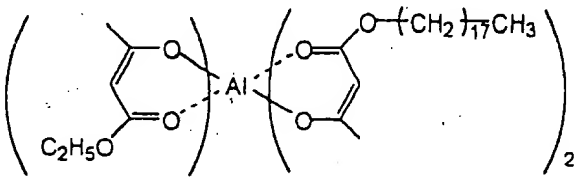


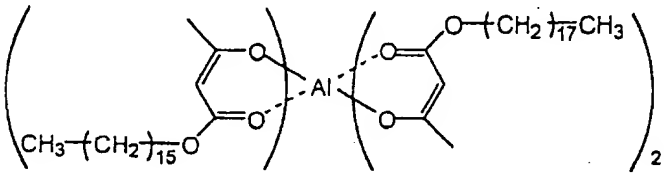
(II-3)

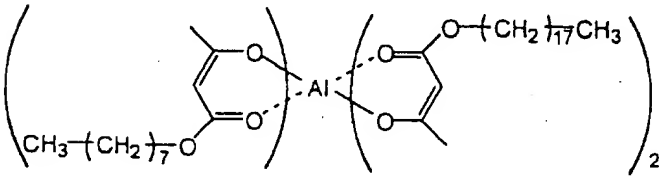
(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is Al; "n" is 3), and

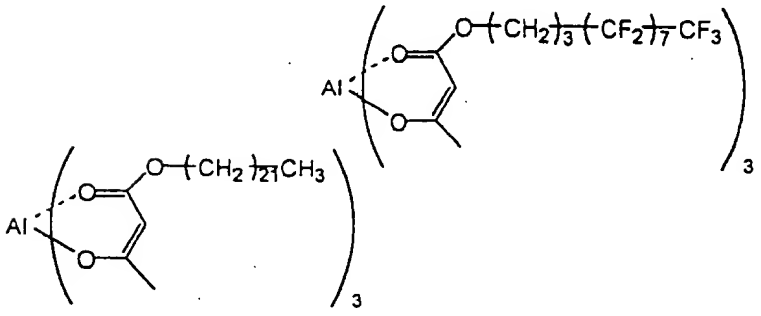
at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom,, and a silicon compound capable of generating silanol upon irradiation of light.

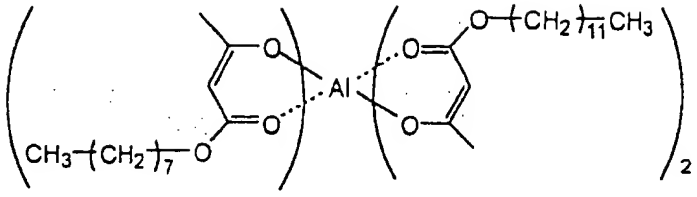
55. (new): A curable resin composition according to claim 54, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum, tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas:

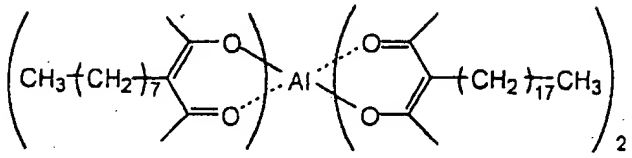


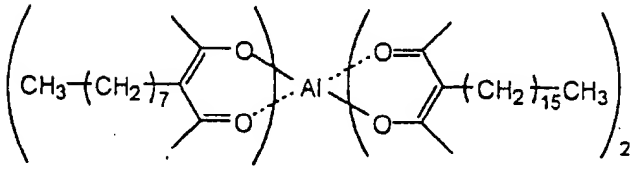


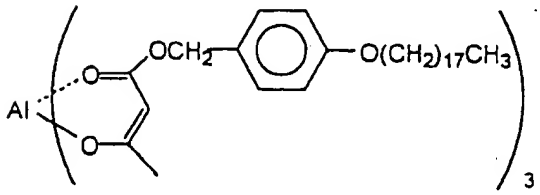


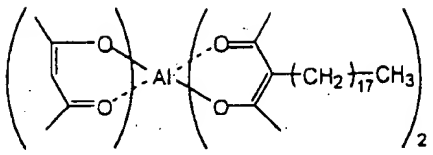


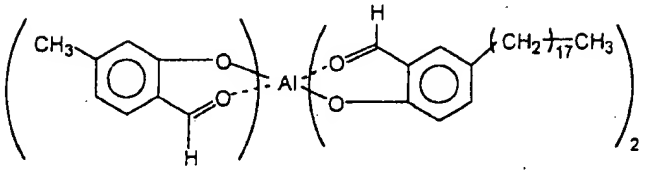


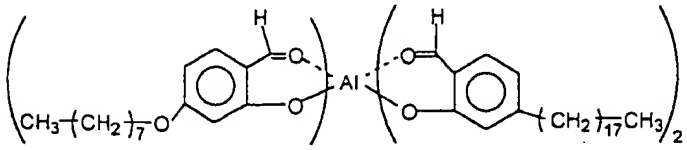


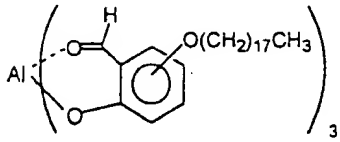




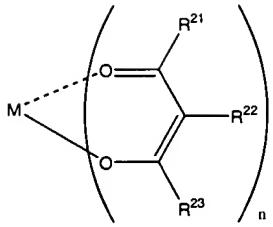




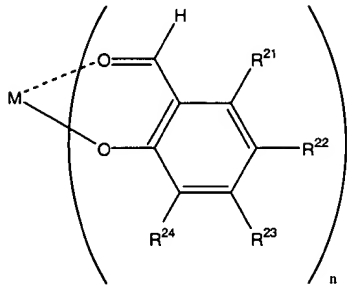




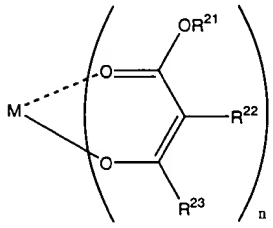
56. (new): A curable resin composition according to claim 46, wherein said metal compound (3") is at least one kind selected from the group consisting of a compound represented by general formula (II-1), a compound represented by general formula (II-2), and a compound represented by general formula (II-3):



(II-1)



(II-2)



(II-3)

(in the general formula, R^{21}, R^{22}, R^{23}, and R^{24} may be identical to or different from each other, and which are a hydrogen atom, a substituted or nonsubstituted hydrocarbon group of a carbon number of 1-30, respectively, provided that there are contained at least one of R^{21}, R^{22}, R^{23}, and R^{24} having a carbon number of not less than 10 in one ligand; M is Al; "n" is 3), and

at least one compound selected from the group consisting of organosilane having an aryl group bonded directly to a silicon atom and having a hydroxyl group or a hydrolyzable group bonded directly to a silicon atom, a phenol compound, an organosilicon compound compound having a hydrolyzable group bonded directly to a silicon atom,, and a silicon compound capable of generating silanol upon irradiation of light.

57. (new): A curable resin composition according to claim 56, wherein said compound represented by the formulas (II-1), (II-2) and (II-3) is selected from the group consisting of tris(octadecylacetoacetate) aluminum, tris(hexadecylacetoacetate) aluminum, tris(tetradecylacetoacetate) aluminum, tris(dodecylacetoacetate) aluminum, tris(octylsalicylaldehyde) aluminum, tris(3-octadecylacetlyacetate) aluminum, and compounds represented by the following chemical formulas: